



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 35

[Docket No.: FAA-2010-0940; Notice No. 11-06]

RIN 2120-AJ88

Critical Parts for Airplane Propellers

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The Federal Aviation Administration (FAA) proposes to amend the airworthiness standards for airplane propellers. This action would define what a propeller critical part is, require the identification of propeller critical parts by the manufacturer, and establish engineering, manufacture, and maintenance processes for those parts. The intended effect of this proposal is to ensure the continued airworthiness of propeller critical parts by requiring a system of processes to identify and manage these parts throughout their service life. Adopting this proposal would eliminate regulatory differences between part 35 and European Aviation Safety Agency (EASA) propeller critical parts requirements, thereby simplifying airworthiness approvals for exports.

DATES: Send comments on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Send comments identified by docket number FAA-2010-0940 using any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the online instructions for sending your comments electronically.
- Mail: Send comments to Docket Operations, M-30; U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE, Room W12-140, West Building Ground Floor, Washington, DC 20590-0001.
- Hand Delivery or Courier: Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: Fax comments to Docket Operations at 202-493-2251.

Privacy: The FAA will post all comments it receives, without change, to <http://www.regulations.gov>, including any personal information the commenter provides. Using the search function of the docket web site, anyone can find and read the electronic form of all comments received into any FAA dockets, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the Federal Register published on April 11, 2000 (65 FR 19477-19478), as well as at <http://DocketsInfo.dot.gov>.

Docket: Background documents or comments received may be read at <http://www.regulations.gov> at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this action, contact Jay Turnberg, Engine and Propeller Directorate Standards Staff, ANE-111,

Federal Aviation Administration, 12 New England Executive Park, Burlington, Massachusetts, 01803-5299; telephone (781) 238-7116; facsimile (781) 238-7199, email: jay.turnberg@faa.gov. For legal questions concerning this action, contact Vincent Bennett, FAA Office of Regional Council, ANE-7, Federal Aviation Administration, 12 New England Executive Park, Burlington, Massachusetts, 01803-5299; telephone (781) 238-7044; facsimile (781) 238-7055, email: vincent.bennett@faa.gov.

SUPPLEMENTARY INFORMATION:

Authority for this Rulemaking

The FAA's authority to issue rules on aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, the FAA is charged with prescribing regulations promoting safe flight of civil aircraft commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce, including minimum safety standards for airplane propellers. This regulation is within the scope of that authority because it updates the existing regulations for airplane propellers.

Overview of Proposed Rule

Part 35 does not specifically define the term propeller critical part. Consequently, there are no requirements for design, manufacture, maintenance, or management of propeller critical parts. This rule would define and require the identification of propeller critical parts, and establish requirements to ensure the integrity of those parts.

Statement of the Problem

Propeller critical parts are not adequately addressed by the current Federal Aviation Regulations. Presently, the FAA does not –

- Have a specific definition for a propeller critical part, or
- Require type certificate holders to identify propeller critical parts.

Consequently, propeller manufacturers are not required to provide information concerning propeller critical part design, manufacture, or maintenance.

Background

On December 20, 2006, the FAA tasked the Aviation Rulemaking Advisory Committee (ARAC) to develop recommendations that would address the integrity of propeller critical parts, as well as be in harmony with similar European Aviation Safety Agency (EASA) regulations. This proposal addresses those recommendations, which can be found in the docket of this rulemaking.

Discussion of the Proposal

Primary failure of certain single propeller elements (for example, blades) can result in a hazardous propeller effect. Part 35 does not specifically identify these elements as propeller critical parts. Consequently, there are no requirements for design, manufacture, maintenance, or management of propeller critical parts.

EASA, however, has regulations that identify a specific definition for propeller critical part, and regulations to reduce the likelihood of propeller critical part failures. These regulations, EASA Certification Specifications for Propellers (CS-P), are CS-P 150, Propeller Safety Analysis and CS-P 160, Propeller Critical Parts Integrity.

This proposal requires propeller manufacturers to identify propeller critical parts and provide adequate information for the design, manufacture, and maintenance of those parts to ensure their integrity throughout their service life. This proposed action is intended to be equivalent to the EASA regulations, thereby simplifying airworthiness approvals for export of these parts.

Safety analysis (§ 35.15)

We are proposing to revise § 35.15(c) to require the identification of propeller critical parts, and that applicants establish the integrity of these parts using the standards in proposed § 35.16.

Section 35.15(c) refers to the failure of these parts as primary failures of “certain single elements”. We recognize that a meaningful numerical estimate of the reliability of these parts is not possible, since over 100 million hours of service history on a part design would be needed to directly meet the probability requirements of the regulation. The regulations presently accommodate this inability to provide a meaningful estimate by stating that these failures cannot be “sensibly” estimated in numerical terms.

Propeller Critical Parts (new § 35.16)

Our proposed § 35.16 would require the development and execution of an engineering process, a manufacturing process, and a service management process for propeller critical parts. These three processes form a closed-loop system that links the design intent, as defined by the engineering process, to how the part is manufactured and to how the part is maintained in service. Engineering, manufacturing, and service management function as an integrated system. This integrated systems approach recognizes that the effects of an action in one area would have an impact on the entire system.

The proposed § 35.16 clarifies the wording of the EASA propeller critical parts requirement. Since the CS-P 160 use of the term “plan” might infer a requirement that a “part-specific” document would be required, the term "process" is used instead of "plan". In this context compliance will consist of a procedures manual that describes the manufacturer’s method(s) to control propeller critical parts.

The engineering, manufacturing, and service management processes should provide clear information for propeller critical part management. “Process” in the context of the proposed requirement does not mean that all the required technical information is within a single document. When relevant information exists elsewhere, the process documents may reference, for example, drawings, material specifications, process specifications, as appropriate. These references should be clear enough to sufficiently identify the referenced document so as to allow the design history of an individual part to be traced.

Regulatory Evaluation, Regulatory Flexibility Determination, International Trade Impact Assessment, and Unfunded Mandates Assessment

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Orders 12866 and 13563 direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Public Law 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Public Law 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. And fourth, the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires agencies to prepare a written assessment of the

costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this proposed rule.

In conducting these analyses, the FAA has determined that this proposal has benefits, but no substantial costs, and that it is not "a significant regulatory action" as defined in Executive Order 12866, nor "significant" as defined in DOT's Regulatory Policies and Procedures. Further, this proposed rule would not have a significant economic impact on a substantial number of small entities, would reduce barriers to international trade, and would not impose an Unfunded Mandate on state, local, or tribal governments, or on the private sector.

Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If the expected cost impact is so minimal that a proposed or final rule does not warrant a full evaluation, this order permits a statement to that effect, and the basis for it, be included in the preamble if a full regulatory evaluation of the cost and benefits is not prepared. Such a determination has been made for this proposed rule. The reasoning for this determination follows:

Presently, airplane propeller part manufacturers must satisfy both the code of federal aviation regulations (CFR) and the European Aviation Safety Agency (EASA) certification requirements to market their products in both the United States and Europe. Meeting two sets of certification requirements raises the cost of developing new airplane propeller parts often with no increase in safety. In the interest of fostering international trade, lowering the cost of airplane propeller parts development, and making the certification process more efficient, the FAA,

EASA, and airplane propeller part manufacturers worked to create to the maximum extent possible a single set of certification requirements accepted in both the United States and Europe. These efforts are referred to as harmonization.

Propellers contain critical parts whose primary failure can result in a hazardous propeller effect. 14 CFR part 35 does not identify what a propeller critical part is, and consequently, has no specific requirement(s) for their design, manufacture, maintenance, or management. EASA however, has regulations that identify what propeller critical parts are, and regulations to reduce the likelihood of propeller critical part failures.

This proposed rule would revise § 35.15 and add a new §35.16 to part 35 with the “more stringent” sections CS-P 150 Propeller Safety Analysis and CS-P 160 Propeller Critical Parts Integrity of the EASA requirements. The difference between the FAA and EASA regulations is that the FAA currently does not identify a means of compliance for propeller critical parts and EASA does. The FAA has concluded for the reasons previously discussed in the preamble that the adoption of these EASA requirements into the CFR is the most efficient way to harmonize these sections and in so doing, the existing level of safety will be preserved.

Manufacturers of airplane propeller critical parts, as well as airplane propeller critical part modifiers potentially would be affected by the proposed amendment.

A review of current manufacturers of airplane propeller parts, certificated under part 35, has revealed that all manufacturers of such future airplane propeller parts are expected to continue their current practice of compliance under part 35 of the CFR and the EASA certification requirements. Since future certificated airplane propeller parts are expected to meet the existing sections CS-P 150 Propeller Safety Analysis and CS-P 160 Propeller Critical Parts Integrity of the EASA requirements and this proposal simply adopts the same EASA requirement,

manufacturers would incur no additional cost resulting from this proposal. Therefore, the FAA estimates that there are no costs associated with this proposal.

In fact, manufacturers are expected to receive cost-savings because they would not have to build and certificate critical propeller parts to two different authorities' certification specifications and rules.

The FAA, however, has not attempted to quantify the cost savings that may accrue due to this specific proposal, beyond noting that while they may be minimal, they contribute to a potential harmonization savings. The agency concludes that because there is consensus among potentially impacted airplane propeller critical parts manufacturers that savings will result, further analysis is not required.

The FAA requests comments with supporting documentation in regard to the conclusions contained in this section.

FAA has, therefore, determined that this proposed rule is not a "significant regulatory action" as defined in section 3(f) of Executive Order 12866, and is not "significant" as defined in DOT's Regulatory Policies and Procedures.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Public Law 96-354) (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious

consideration.” The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The FAA believes that this proposed rule would not have a significant economic impact on a substantial number of small entities for the following reason. The net effect of the proposed rule is minimum regulatory cost relief. The proposed rule requires that new propeller manufacturers meet just the “more stringent” European certification requirement, CS-P 150, Propeller Safety Analysis and CS-P 160, Propeller Critical Parts, rather than both the United States and European standards. Propeller manufacturers already meet or expect to meet this standard as well as the existing CFR requirement.

Given that this proposed rule has minimal to no costs, and could be cost-relieving, the FAA certifies that this proposed rule will not have a significant economic impact on a substantial number of small entities. We request comment.

International Trade Impact Assessment

The Trade Agreements Act of 1979 (Public Law 96-39), as amended by the Uruguay Round Agreements Act (Public Law 103-465), prohibits Federal agencies from establishing standards or

engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this proposed rule and determined that as the rule is in accord with the Trade Agreements Act as the proposed rule uses European standards as the basis for United States regulation.

Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of \$143.1 million in lieu of \$100 million.

This proposed rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. The FAA has determined that there would be no new requirement for information collection associated with this proposed rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform our regulations to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in Chapter 3, paragraph 312f and involves no extraordinary circumstances.

Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. The agency has determined that this action would not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, would not have Federalism implications.

Executive Order 13211, Regulations that Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it would not be a “significant energy action” under the executive

order and would not be likely to have a significant adverse effect on the supply, distribution, or use of energy.

Additional Information

Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The agency also invites comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

The FAA will file in the docket all comments it receives, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, the FAA will consider all comments it receives on or before the closing date for comments. The FAA will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. The agency may change this proposal in light of the comments it receives.

Proprietary or Confidential Business Information: Commenters should not file proprietary or confidential business information in the docket. Such information must be sent or delivered directly to the person identified in the FOR FURTHER INFORMATION CONTACT section of this document, and marked as proprietary or confidential. If submitting information on a disk or CD ROM, mark the outside of the disk or CD ROM, and identify electronically within the disk or CD ROM the specific information that is proprietary or confidential.

Under 14 CFR 11.35(b), if the FAA is aware of proprietary information filed with a comment, the agency does not place it in the docket. Any such proprietary information is held in a separate file to which the public does not have access, and the FAA places a note in the docket that it has received it. If the FAA receives a request to examine or copy this information, it treats it as any other request under the Freedom of Information Act (5 U.S.C. 552). The FAA processes such a request under Department of Transportation procedures found in 49 CFR part 7.

Availability of Rulemaking Documents

An electronic copy of rulemaking documents may be obtained from the Internet by—

1. Searching the Federal eRulemaking Portal (<http://www.regulations.gov>);
2. Visiting the FAA's Regulations and Policies web page at http://www.faa.gov/regulations_policies; or
3. Accessing the Government Printing Office's web page at <http://www.gpoaccess.gov/fr/index.html>.

Copies may also be obtained by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW, Washington, DC 20591, or by calling (202) 267-9680. Commenters must identify the docket or notice number of this rulemaking.

All documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, may be accessed from the Internet through the Federal eRulemaking Portal referenced in item (1) above.

List of Subjects in 14 CFR Part 35

Air transportation, Aircraft, Aviation Safety, Safety.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend chapter I of Title 14, Code of Federal Regulations, as follows:

PART 35—AIRWORTHINESS STANDARDS: PROPELLERS

1. The authority citation for part 35 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701-44702, 44704

2. Amend § 35.15 by revising paragraphs (c) and (d) to read as follows:

§ 35.15 Safety Analysis.

* * * * *

(c) The primary failures of certain single propeller elements (for example, blades) cannot be sensibly estimated in numerical terms. If the failure of such elements is likely to result in hazardous propeller effects, those elements must be identified as propeller critical parts.

(d) For propeller critical parts, applicants must meet the prescribed integrity specifications of § 35.16. These instances must be stated in the safety analysis.

* * * * *

3. Add § 35.16 to subpart B to read as follows:

§ 35.16 Propeller Critical Parts.

The integrity of each propeller critical part identified by the safety analysis required by § 35.15 must be established by:

(a) A defined engineering process for ensuring the integrity of the propeller critical part throughout its service life,

(b) A defined manufacturing process that identifies the requirements to consistently produce the propeller critical part as required by the engineering process, and

(c) A defined service management process that identifies the continued airworthiness requirements of the propeller critical part as required by the engineering process.

Issued in Washington, DC, on October 31, 2011.

Dorenda D. Baker
Director, Aircraft Certification Service

[FR Doc. 2011-30952 Filed 11/30/2011 at 8:45 am; Publication Date: 12/01/2011]